

Vaccinia, Disease or Adverse Event

Agent: Vaccinia virus, which is used in the smallpox vaccine. The virus also occurs in some bovine (cattle) populations, primarily in Brazil.

Mode of Transmission: Through injection with the smallpox vaccine, or through direct contact with contaminated materials, or by inadvertent inoculation by contact with the vaccination site before it has healed. Outbreaks among dairy cattle in Brazil have led to transmission of the virus to their human handlers, primarily farmers and ranchers.

Signs/Symptoms: Includes rash, fever and head and body aches. Some individuals, especially those with certain skin conditions or weakened immune systems, may experience more serious effects, such as a toxic or allergic reaction at the vaccination site or spread of the virus to other parts of the body.

Prevention: When smallpox is not circulating, and to prevent serious reaction to the vaccine, administration of the smallpox vaccine should be limited to laboratory workers who handle smallpox and similar viruses and certain healthcare workers. The vaccine is currently available only to members of emergency response teams and some military personnel.

Other Important Information: Routine vaccination against smallpox ceased in 1972 when smallpox was eradicated in the U.S. The U.S. government has enough smallpox vaccine to vaccinate every person in the country in the event of a smallpox emergency. Vaccinia became a reportable condition in Virginia in 2003. It is not a nationally notifiable condition and U.S. totals are not available.

Reports of vaccinia from inadvertent transmission of the vaccine virus in recipients remain rare. In 2016, no cases of vaccinia were reported in Virginia. The five-year average is 0.2 cases per 100,000 population. Two cases of vaccinia have been reported in Virginia. The first reported case occurred in 2008 in a laboratory worker who handled vaccinia-infected mice. The second case was reported in 2013 and occurred in a vaccinated member of the military. The use of smallpox vaccine remains limited to a small population, primarily those who work with smallpox and similar viruses.